
Pattern of Small Genetic Factors Found to Characterize Embryonic Stem Cells

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Researchers at The Scripps Research Institute discovered that human embryonic stem cells have a very specific signature when it comes to the regulators of their genes. MicroRNAs are very small, naturally occurring bits of genetic material. They don't code for specific proteins like genes do, but they regulate the activity of genes and turn on and off their protein production. In embryonic stem cells microRNAs are actively preventing the production of proteins that tell cells to differentiate into specific heart or bone tissue, for example, but are pushing hard on genes that result in self-renewal. The team hopes to use these microRNAs to reprogram any type of cell to become as pluripotent as embryonic stem cells and to do it more safely than current reprogramming called iPS.

Stem Cells: June, 2008

CIRM funding: Louise Laurent (T1-00003)

Related Information: Press release , The Scripps Research Institute

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